



**Force-on-Force  
Lessons-Learned Review and the Future  
of the Force-on-Force and Baseline  
Security Inspection Programs**

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**Commission-Directed Lessons-Learned Review**

COMGEA/COMWCO-14-0001 issued February 11, 2014:

The staff should conduct a lessons-learned review of the Nuclear Regulatory Commission's force-on-force inspection program to evaluate whether any adjustments are necessary to ensure efforts in this area are accomplishing intended objectives effectively and whether NRC's and licensees' efforts are focused on the most important issues to ensure security and safety at the sites.

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**Methodology for responding to the staff requirements memorandum**

**Phase I**

- Data Collection and Analysis
- Literature Review
- Benchmarking
- Best Practices
- Solicited and Considered Stakeholder Feedback

**Phase II**

- Analyzed Phase I data
- Developed Options and Recommendations
- Delivered Final Review Results (SECY-14-0088, dated 8/21/2014)

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**Staff Response to Lessons-Learned Review  
(SECY-14-0088)**

- Background and Program History
- Stakeholder Perspectives
- Options and Recommendations
- Staff Commitments

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**Background**

- Regulatory Effectiveness Reviews
- Operational Security Response Evaluations
- Response to September 11, 2001
  - > Interim Compensatory Measures
  - > Expanded Table-Top Exercises
  - > Expanded FOF Exercises

In November 2004, NRC began implementation of its redesigned, full-scale force-on-force program with the intent of performing exercises at each licensee every three years.

Three inspection cycles have been completed since the 2004 program was implemented.

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**Cycle 1 (November 2004 – December 2007)**

- First use of Multiple Integrated Laser Engagement System and dedicated Composite Adversary Force
- Exercises beginning in the Owner-Controlled Area
- Development of general inspector guidance and development and implementation of interim inspector qualification program.

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**Cycle 2 (January 2008 – December 2010)**

- Developed appeals process for licensee concerns about scenarios and adversary actions
- Developed and implemented formal qualification program for inspectors
- Worked with industry to develop several guidance documents, including development and implementation of an Executive Lessons-Learned Program

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**Cycle 3 (January 2011 – December 2013)**

- Developed and incorporated program threshold criteria into force-on-force exercise assessments
- NEI 11-02, "Change Management Plan – Evaluated Force-on-Force Exercises" found acceptable for use

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**Cycle 4 (January 2014 – Present)**

- The NRC implemented several changes in Cycle 4 of the force-on-force inspection program. These changes include:
  1. Reducing the number of NRC-conducted force-on-force exercises from three exercises per inspection to two;
  2. Eliminating the training exercise from the NRC-conducted force-on-force inspections;
  3. Expanding and enhancing the formal force-on-force exercise critique process;
  4. Adding an NRC inspection of licensee-conducted annual force-on-force exercises to the baseline inspection program; and
  5. Revising the FOF significance determination process to expand the use of program threshold criteria in determining the final significance of force-on-force exercise findings.

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### Stakeholder Perspectives

As part of the lessons-learned review, the NRC staff held a public meeting, including an open and closed session, on May 5, 2014, to discuss the force-on-force program and the questions posed by the Commission in SRM COMGEA/COMWCO-14-0001. The staff included feedback received at the May 5, 2014, meeting and that included in a June 11, 2014, letter from the Nuclear Energy Institute in its response to the Commission (SECY-14-0088).

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### Options and Recommendations

The staff provided options and recommendations in three areas:

1. Adversary tactics and procedures
  - The staff recommended that the Commission direct the staff to establish a working group to inform the tactics, techniques and procedures used by the Composite Adversary Force using real-world information.
2. Multiple Integrated Laser System software
  - The staff recommended that the Commission direct the staff to restore the Multiple Integrated Laser System software to its original configuration to include light and critical wound inputs.

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### Options and Recommendations (continued)

3. Unattended openings
  - The staff recommended that the Commission maintain the current requirements for unattended openings to provide high assurance that an adversary cannot exploit these openings.

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### Staff Commitments

The staff committed to take action on the following:

1. Working with industry to identify, validate, and benchmark mechanisms, such as the use of simulation software, to evaluate potential vulnerabilities that may be inappropriate for performance testing during an NRC-conducted force-on-force exercise.
2. Updating the Significance Determination Process used to prioritize deficiencies associated with the security baseline inspection program.

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### Staff Commitments (continued)

3. Providing guidance to industry on compensatory measures.
4. Developing better guidance on exercise control and mission planning to improve the realism and effectiveness of NRC- and licensee-conducted force-on-force exercises.
5. Evaluating updates to the force-on-force inspection procedure to provide flexibility and better guidance regarding the inside information provided to the Composite Adversary Force for NRC-conducted force-on-force exercises.

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### Commission Direction – Adversary Tactics

- The Commission approved the staff's recommendation to establish an NRC working group to determine how to better integrate knowledge of adversary training methodologies and actual attacks with the tactics, techniques, and procedures used by the NRC composite adversary force.
  - The Commission directed the staff to provide periodic updates to the Commission on this activity, and to report the working group's findings to the Commission in a notation vote paper.

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**Commission Direction – Multiple Integrated Laser Engagement System**

- The Commission disapproved the staff's recommendation to restore the Multiple Integrated Laser Engagement System to its original condition and directed the staff to use the existing change management process to fully evaluate the pros and cons of this change to determine if it would result in an overall enhancement to force-on-force exercises.

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**Commission Direction – Unattended Openings**

- The Commission directed the staff to account for the realistic ability for specific opening configurations to be exploited when evaluating inspection findings and assessing licensee corrective actions.
- The Commission directed the staff to evaluate the NRC requirements for unattended openings through the same NRC working group that is being established to evaluate adversary tactics, techniques and procedures.

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**Commission Direction – Staff Commitments**

- The Commission supported the staff's commitment to actions not requiring Commission approval, and directed the staff to:
  1. Continue working with industry to review and reduce the number of extensive simulations used in developing and executing FOF scenarios by identifying, validating, and benchmarking mechanisms, such as the use of simulation software, to evaluate potential vulnerabilities that may be inappropriate for performance testing during an NRC-conducted FOF exercise;
  2. Review and update the physical protection significance determination process;

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**Commission Direction – Staff Commitments  
(Continued)**

- 3. Issue a generic communication to licensees to clarify the NRC's expectations regarding the implementation of compensatory measures; and
- 4. Enhance guidance, training, and inspection program documents in the effort to improve the realism and effectiveness of FOF exercises.

- The Commission directed that the staff provide an information paper to the Commission, annually, providing the status of these actions.

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